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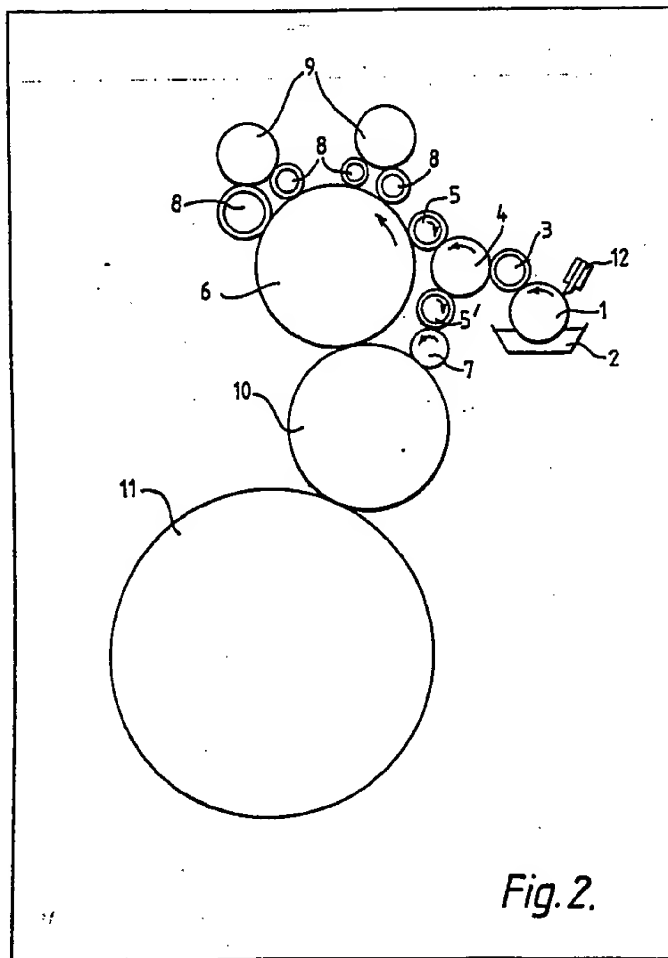
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(54) Combined moistening and lacquering means in a printing machine

(57) A printing machine is provided with a combined moistening and lacquering device, which enhances the utility of the machine. The moistening and lacquering device can act not only

on a plate cylinder (6) of the machine for moistening purposes but also on a blanket cylinder (10) of the machine or the plate cylinder (6) for lacquering purposes. To achieve this, associated with a wiper roller (5') of the moistening and lacquering device is a lacquer application roller (7), which is placeable on the blanket cylinder (10).



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SPECIFICATION

Combined moistening and lacquering means in a printing machine

The present invention relates to a printing machine, and has particular reference to moistening and lacquering means in such a machine.

The requirement for an improved, bright and smear-free printing result is in recent times of increasing importance. In order to prevent smearing of fresh ink on the reverse sides of printed sheets, initially each individual printed sheet was dusted with powder before being deposited in the sheet delivery. The disadvantage of powder is, however, the resulting sand-like texture of the printing stock. Moreover, with corresponding paper much of the intrinsic shine of the ink and of the paper is lost.

In order to avoid the need to use powder, the inking device has been used to transfer a suitable lacquer to the printing-plate and thus through the blanket cylinder to the print carrier. The disadvantage of this arrangement is that the lacquer must take the longest path through the inking device and thus cannot have a vapour-based formulation or else it will dry out usually in the inking device.

In order to shorten this path, in DE-PS 20 205 84 there is disclosed a lacquering device in a printing machine, which consists of a dip roller rotating in a container, a squeeze roller and an application roller and which is positioned at the blanket cylinder of the last printing mechanism. Due to the required installation space of such a lacquering device, the installation location must lie in front of the printing zone blanket cylinder/plate cylinder, so that the path of the lacquer up to the printing application is still relatively long.

Moreover, in another construction, in order to prevent smearing of the sheet on delivery, the moistening device of the printing device, not conveying ink, is constructed as a lacquering device. The disadvantage of this lacquering device is that the moistening device can only be used for lacquer delivery to the plate cylinder and the path of the lacquer is even longer than in the first case.

Both lacquering devices are either expensive in terms of material and space or not suitable for all for quick drying lacquers.

There is accordingly a need for a combined moistening and lacquering device which, with simple means, enhances the utility of the printing machine.

According to the present invention there is provided a printing machine comprising a printing mechanism which includes a blanket cylinder, and combined moistening and lacquering means for conducting a moistening or lacquering agent to the printing mechanism, the moistening and lacquering means including a wiper roller for transfer of the agent to the printing mechanism and a lacquer application roller selectively positionable to effect transfer of lacquering agent directly from the wiper roller to the blanket

65 cylinder.

The combined moistening and lacquering means may thus be employable not only to transfer agent to the plate cylinder of the mechanism for moistening purposes but also to transfer agent to the plate cylinder or to the blanket cylinder for lacquering purposes. This is achieved by associating with the wiper roller of the lacquering and moistening means a lacquer application roller which is placeable on the blanket on rubber cylinder. For the improved lacquer reception, a ductor of the lacquering and moistening means may be provided with cups.

An embodiment of the present invention will now be more particularly described by way of example with reference to the accompanying drawings, in which:

Fig. 1 is a schematic elevation of a combined moistening and lacquering the plate cylinder in a printing machine embodying the invention; and

Fig. 2 is a view similar to Fig. 1 showing the device converted for lacquering the rubber cylinder in the machine.

Referring now to the drawings, there is shown in Figs. 1 and 2 part of a printing machine having a printing mechanism comprising a plate cylinder 6, a printing cylinder 11, a blanket or rubber cylinder 10 connecting the plate cylinder 6 to the printing cylinder 11 in known manner, an inking device, and a combined moistening and lacquering device.

The moistening and lacquering device comprises a ductor 1 which is in constant contact with a moistening agent in the moistening agent box 2.

After each printing application, the moistening agent can be replaced by a suitable printing lacquer or water-box lacquer.

The ductor 1 is formed or engraved, analogously to a photogravure cylinder, with cups. Arranged on the ductor 1 is a wiper 12 or a counter-rotating metering roller 13 (Fig. 1).

The ductor 1 is connected with a transfer roller 3 through a positive coupling in the form of gearwheel means. The transfer roller 3 is connected with a distributing cylinder 4 through slip contact and this stands in contact with the plate cylinder 6 through two wiper rollers 5 and 5'.

Associated with the wiper roller 5' is a pivotable lacquer application roller 7, which can be mounted in known manner and can be adjustable.

As shown in Fig. 2, the lacquer application roller 7 is so dimensioned that, when the wiper roller 5' is removed from the plate cylinder 6, the roller 7 is placeable on the rubber cylinder 10.

The inking device comprises four ink transfer rollers 8 and two ink distributing cylinders 9 arranged above the plate cylinder 6.

In use of the moistening and lacquering device, the ductor 1 is driven by a separate motor anticlockwise, whereby its surface is wetted with liquid moistening agent, printing lacquer or water-box lacquer, depending on the content of the box 2.

As the ductor 1 is provided with cups, sufficient moistening agent or printing lacquer can always be transferred.

- 5 The surplus moistening agent is wiped off by the wiper 12 or the counter-rotating metering roller 13.

- 10 The onward transport of the agent or lacquer takes place through the positively driven transfer roller 3, the distributing cylinder 4, and the wiper rollers 5 and 5' placed on the plate cylinder 6. The lacquer application roller 7 can run with the roller 5' or be removed.

- 15 If a quick-drying lacquer is to be used and, as a consequence, the path to the sheets is to be minimised, the lacquer application roller 7 is placed on the cylinder 10. As shown in Fig. 2, for this process the wiper roller 5' is removed from the plate cylinder 6 and the wiper roller 5 remains in contact with the cylinder 6 to serve as a
20 smoothing roller or else is removed.

The plate cylinder 6 is position-regulated by the cylinder 10 and, in order to prevent lacquer

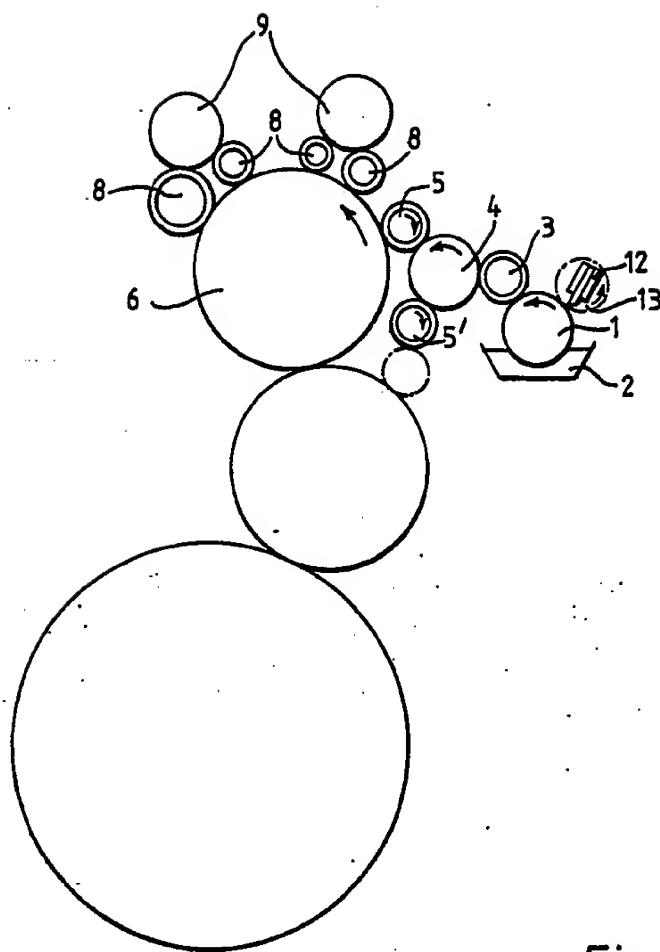
deposit on the ink application rollers 8, these can be removed from the plate cylinder 6.

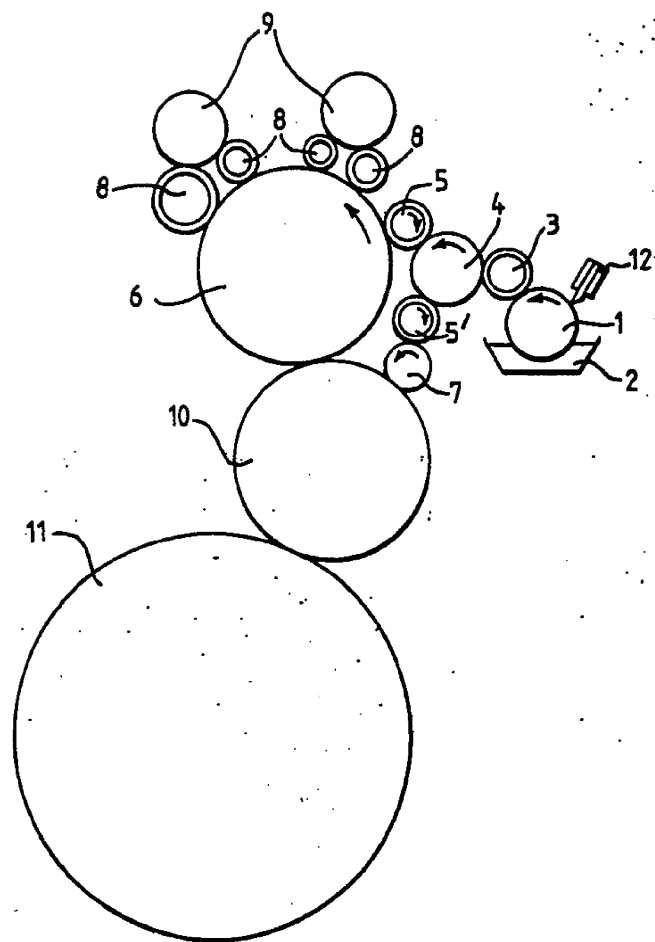
25 CLAIMS

1. A printing machine comprising a printing mechanism which includes a blanket cylinder, and combined moistening and lacquering means for conducting a moistening or lacquering agent to the printing mechanism, the moistening and lacquering means including a wiper roller for transfer of the agent to the printing mechanism and a lacquer application roller selectively positionable to effect transfer of lacquering agent directly from the wiper roller to the blanket cylinder.

2. A printing machine as claimed in claim 1, the moistening and lacquering means including a ductor roller provided with surface cups.

3. A printing machine substantially as hereinbefore described with reference to the accompanying drawings.

*Fig. 1.*

*Fig. 2.*